

# U.S. NAVY MEDICINE

September 1980



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# Navy Medical Department Welcomes 28th Surgeon General

The Navy Medical Department has a new Surgeon General, VADM J. William Cox. Dr. Cox is a graduate of the College of Arts and Sciences of both Saint Louis University and Washington University, Saint Louis, MO. In 1952, he received his M.D. degree from Saint Louis University.

Dr. Cox was appointed Lieutenant (junior grade) in the Naval Reserve on 12 Feb 1954 and was commissioned Lieutenant in 1956.

After receiving his appointment in 1954, he interned at the Naval Hospital, San Diego, CA, until February 1955, after which he joined the staff as Head of the Cardiopulmonary Laboratory, Officer in Charge of the Nontuberculosis Chest Disease Branch of the Chest Service, and Lecturer in Basic Sciences. In 1956, he was appointed to second-year-level residency training in internal medicine, completing his training in 1959, at which time he was reassigned to staff as a medical branch supervisor.

In 1961, he reported as Director of Clinical Services and Chief of Medicine at the U.S. Naval Hospital, Subic Bay, Republic of the Philippines. He then joined the staff of the Naval Hospital, Philadelphia, PA, in 1963 as Head of the Cardiovascular, Pulmonary and Communicable Disease Branch and later as Chief of Medicine and Director of Research. He joined the staff of BUMED in 1970, where he served first as Assistant Head and then Head of the Training and Clinical Services Branch, Professional Division, before assuming command of the Naval Medical Training Institute in 1973, and in 1974, command of the Naval Health Sciences Education and Training Command,



VADM Cox

Bethesda, MD.

From 1971 to 1977, VADM Cox was also BUMED's Special Assistant for Medical Department Education and Training, and Special Assistant for Medical Education and Training in the Office of the CNO, Director of Naval Education and Training.

VADM Cox is a Diplomate of the American Board of Internal Medicine and a Fellow of the American College of Cardiology, the American College of Physicians, the American College of Chest Physicians, and the Philadelphia College of Physicians. He served as the Surgeon General's alternate to the Board of Regents of the National Library of Medicine until 1978. He was the Surgeon General's alternate to the House of Delegates of the American Medical Association. He was Treasurer and a Trustee of the American College of Cardiology from 1974 to 1979. His professional memberships include the Executive

Council of the Association of Military Surgeons of the United States, the National Medical Audiovisual Center Advisory Committee, the National Board of Medical Examiners, the American Heart Association, and Chairman of the Section Council on Federal and Military Medicine of the American Medical Association. He is also a member of the Research Society of Sigma Xi, the Society of Medical Consultants to the Armed Forces, and the National Medical Veterans Society. He is a member of the Advisory Committee on Continuing Physician Evaluation of the National Board of Medical Examiners, alternate member of the Department of Defense on the Graduate Medical Education National Advisory Committee (GMENAC), and is Chairman of the Association of Section and Service Delegates of the American Medical Association.

VADM Cox has held faculty appointments at Saint Louis University in the Department of Physiology and at Thomas Jefferson University School of Medicine, Philadelphia, PA, as Associate in Medicine (1963-1964), Assistant Professor of Medicine (1964-1967), and Associate Professor of Medicine (1968-1973).

Dr. Cox comes to his new post with strong ideas about what Navy health care should be, especially as it affects the operating forces. He is a strong believer in readiness and the need for training.

The Medical Department can expect to see a good number of innovations from a man whose wide range of interests and professional experience uniquely qualify him for his new office. We all wish him well.

# **Anorexia Nervosa: Self-Imposed Starvation**

CDR Eli Breger, MC, USNR

**"To eat is human; to digest, divine." Copeland**

There exists a singularly intriguing psychological condition of adolescent girls and young women during the course of which they embark on the pursuit of a goal alien to self-preservation—a path of senseless starvation which may eventually lead to death. This disease, anorexia nervosa, is literally translated to mean "appetite loss of nervous origin." It is characterized by three principal manifestations: willful suppression of appetite and aversion to food causing severe weight loss, constipation, and suspension of menstruation with disappearance of sexual drive.

### **Clinical Description**

Rounding out the picture are findings remarkably consistent from patient to patient. The girls complain of abdominal upset when they do eat or are forced to eat and this may include nausea and vomiting. Many so afflicted have periods when, in a concealed manner, they give up their starvation and eat avaricely, only to feel sinful and then force themselves to vomit. They become progressively weaker and exhausted but surprisingly and in contradiction, their severe compelling drive during the early stages forces them to lead an excessively active and rigorous lifestyle involv-

ing much exercise and activity. This is part of a generally saintly existence characterized by clean living, self-denial, and avoidance of sexuality. Their skin becomes dry, their hair brittle, their nails crack, and in time they will appear to have aged excessively. Eventually their blood and body fluids show significant changes in the direction of protein deficiency, anemia, and electrolyte imbalance, with deficiency in certain key blood cell elements. This makes them prime candidates for serious infection constituting a threat to life. In the earliest stages, a physician understandably may consider any number of generalized diseases or specific endocrine disorders to explain the clinical picture, but before long the significance of the total pattern becomes strikingly clear.

### **The Heart of the Problem**

At its very essence, anorexia nervosa is a massive defense maneuver on the part of insecure, conflicted, and unfulfilled adolescents. They attempt to ward off the rigors of the adolescent process and retreat emotionally and physically into childhood when the demands of life were seemingly simple. Early life histories of such individuals indicate longstanding conflicts with their mothers and sometimes their fathers. These conflicts centered around eating with many indica-

tions of inadequate and unsuccessful nurturance. Problems in sibling rivalry are usually inadequately resolved. The condition fulfills the long-held maxim that adolescence presents a host of new conflictual stresses but also opens up old wounds of unresolved past developmental struggles. As with many psychological disorders, there can be gains through symptoms. With anorexia nervosa, the individual avoids adolescence and the parents pay a great deal of attention to her at the expense of a sibling with whom she is rivalrous.

Treatment is fraught with difficulties and roadblocks. In spite of an obviously serious condition, such young women appear unconcerned, deny the existence of problems, are evasive and withdrawn, and express the belief that their only problem is that others will not leave them alone regarding their eating habits. An occasional display of their true emotions is seen with provocation with the emergence of a good deal of anger and depression. As a result, traditional verbal psychotherapeutic approaches are invariably frustrated.

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Dr. Breger is Chief of the Psychiatry Service at the Naval Hospital, Beaufort, SC 29902. Copyright 1980 Eli Breger, M.D. All rights reserved. May be reprinted or reproduced within the Navy for nonprofit educational purposes in keeping with the fair use doctrine.



## Response to Treatment

The outcome depends in great measure on the type of underlying pre-existing personality. If the adolescent is only mildly disturbed with a dramatic personality, she will often only "flirt" with this condition and give it up spontaneously or to the kindly, supportive, and directive persuasions of the physician. However, most are of a compulsive makeup and prepared to do battle. In yet others, the condition is part of a developing psychotic and schizophrenic illness and the outlook is bleak, indeed. Most often, these young women require psychiatric hospitalization where control over eating habits is taken away from them for a period of time, complete separation from the family is made possible, and intensive psychotherapeutic efforts are offered. It is only in such a setting over a long period of time that underlying emotional issues surface with a working through.

## Patient History

Karen is a 14-year-old ninth grader, oldest of three, who presented a weight loss of 30 percent of her body weight, a complete loss of appetite, feeling nauseous, and developing diarrhea when she did eat. She showed a complete lack of concern about her noneating. She had no apparent awareness of danger to her body and life and was angered when this was discussed. There was evidence of inappropriate handling of food such as throwing it away and lying about what she had eaten. Karen decreased her intake with a narrowing of preferences so that she ate only a few foods. The resulting metabolic disturbance gave rise to damage of the nerves of her right arm. She had no feeling below the elbow and used the arm only with difficulty. She had withdrawn socially and showed avoidance of early adolescent striving. In

its place there was an increasing involvement in studies with a gradual elimination of all other activities. Her dependency upon her parents increased and attention seeking and manipulation of them were prominent. Karen easily became tired and lacked energy. Efforts made in her behalf failed to lead to positive responses. Coaxing, coddling, and limit-setting by parents and doctors failed. She was hospitalized in a pediatric setting for several weeks in order to clarify the diagnosis and reverse the pattern, but this failed markedly. An extensive physical workup at the hospital failed to reveal any basic physical pathology. Karen had not yet started to menstruate when her illness began eight months prior to seeking psychiatric consultation. However, based on other physical signs, menses had appeared imminent. During the illness, she lost the little breast and hip development she had previously established.

Prior to her illness, Karen appeared to be functioning reasonably well but, upon deeper investigation, significant issues emerged. She was doing well academically but worked very hard and tended to over achieve. She had a reasonable number of friends before her withdrawal, but she functioned as a non-confident follower. She failed to show any adolescent interests. Karen was a finicky eater and was prodded to eat by her mother over the years. There appeared to be a nurturant deficiency in that the mother showed significant limitations in her ability to physically and emotionally involve herself. Karen tended to be indecisive and relied very much on her parents. When she got into difficulty, they invariably resolved the problem for her.

It is also interesting that Karen's younger sister eats very little and is prodded a good deal by mother and Karen, who states she does not

want her younger sister to get ill.

Karen's mother was raised in a rather cold environment, where the children were expected to raise themselves in great measure. Karen's father showed considerable warmth and support toward Karen and the children, and appeared to be the strong member of this intense and bickering household upon whom all relied.

Psychiatric evaluation revealed Karen to have suppressed the entire eating process stating it was no problem to her except that others made it so by threatening her with having to go to a hospital. She denied problems or unhappiness on any level and just wanted to be left alone. Psychiatric hospitalization was recommended in view of the length of illness, the amount of weight loss, and the lack of response to previous attempts. She remained in a private psychiatric hospital for nine months and received individual, group, and family therapies. Her weight gradually improved and was stabilized and her earlier neurologic problem disappeared. A followup two years later revealed her to be functioning quite well, maintaining her weight and continuing her adolescent developmental process.

## Roots in Nurturant Relationship

We glean a deeper understanding of this unique malady when we consider that it is through food and feeding that the earliest psychological tie is established between the developing infant and the outside world. The child not only receives nourishment and emotional gratification but also an appreciation for the mother and their relationship. It follows that negative emotional qualities may be transmitted through feeding such as maternal tension, depression, and rejection. The child reacts with refusal to eat, regurgitation, bowel disturbance,

and colic. As stated, in families of such patients, conflicts around food have been the rule and one might say there is an emotional fixation around "oral" processes with an intense disordered relationship between the feeding partners. Early adolescence with its emerging sexuality is prone to many primitive and childlike distortions, some of which may couple together oral and sexual processes. Certain primitive cultures, as well as some children, believe that pregnancy occurs by oral means. In psychoanalytic literature there exists a fair number of

cases of anorexia nervosa in which the patient fantasized she might become pregnant through eating, therefore stopped eating, felt intensely guilty, and attempted to discharge her guilt through the basic process of the illness. Even if these dynamics are not well defined in patients, there may exist elements of such disordered thinking. In any case, adolescent sexuality appears to be a threatening specter, frightening such young women into retreating to an earlier stage of life. Perhaps they seek safety, but perhaps they attempt to work

through a more successful gratifying relationship with their mothers which then enables them to face the challenges of adolescent life. Even though what they do to bring this about only compounds their predicament, their goal is noble and it is toward this end that the psychiatrist attempts to form a therapeutic alliance with the patient in the hope of establishing a cure.

**"What is youth?—A dancing billow, winds behind and rocks before." Moore** □

## ACDUTRA—Fiscal Year 1981

As the new academic year begins, Armed Forces Health Professions Scholarship Program (AFHPSP) students should begin making plans for active duty for training during the period 1 Oct 1980-30 Sept 1981. Questionnaires will be mailed to students during the last week in August 1980 and must be returned to the Naval Health Sciences Education and Training Command (HSETC), Code 9 no later than 30 Sept 1980.

Students should be aware that the questionnaires are a planning tool for the AFHPSP's manager. It is not necessary to have confirmation of a desired clerkship at the time the questionnaire is submitted, but letters of confirmation should be obtained and forwarded to HSETC Code 9 as quickly as possible since orders cannot be prepared without them. Above all, the student should personally insure that HSETC Code 9 re-

ceives a copy of the confirmation letter in a timely fashion. This past year, many letters arrived too late for orders to be prepared for the requested dates.

When completing the questionnaire, students should closely follow the guidelines governing requests for orders involving travel. First- and second-year students will only be authorized clerkships at activities near their schools if they cannot attend Officer Indoctrination School (OIS). These guidelines are generated by ever-increasing budgetary constraints, and are necessary to insure an equitable distribution of available funds.

Students planning travel for clerkships should be aware that only one day of travel time is permitted between school and the ACDUTRA site. Transportation should be arranged in a manner which will allow completion of travel within the timeframe.

# The Role of the Military Audiologist

LT H.C. Kidder, MSC, USNR

Hearing has always been important to the fighting man. No one can say how many lives have been saved or lost because someone could or could not hear the high frequency sound of a snapping twig, the click of a rifle bolt, or the scrape of a boot on the ground.

In the modern military, hearing loss is pandemic because of the most pervasive single pollutant of modern times—noise. Sound levels above 85dBA are considered potentially hazardous to hearing, and the Navy is filled with areas (engine rooms, fire rooms, gun turrets, etc.) where the noise level is potentially hazardous.

In order to protect our people and improve our readiness, the Navy has taken several steps to prevent the continued loss of hearing to noise. A new instruction (OPNAV-INST 6260.2) is now in effect and a new BUMED instruction is being written. Hard cash has been spent and more allocated to a Mobile Hearing Conservation Audiometric Trailer (MOHCAT) Program which is designed to provide greater flexibility and availability in hearing monitoring facilities. The Navy has also joined the Air Force and Army in the development of a new career specialty—audiology.

What is an audiologist? An audiologist is a health care professional trained in the analysis of hearing function and the rehabilitation of individuals with impaired



*Mobile Hearing Conservation Audiometric trailer at the 32nd Street, Naval Station Branch Clinic, San Diego.*

hearing. Traditionally, the audiologist has worked in large hospital or clinical settings. The audiologist's primary concerns have been the provision of diagnostic test information to the physician for differential diagnosis of auditory deficiencies, the counseling of individuals who might benefit from amplification, and the fitting of hearing aids.

The nature of this testing allows the location of the lesion to be specified, and the results dictate the remedial process. For example, lesions in the middle part of the ear are identified by comparing air conduction test results with bone conduction test results and by the use of a tympanometer, a device that objectively measures the dynamic impedance of the middle ear. Lesions in this area are treated medically or surgically. Other test procedures provide diagnostic pat-



*Mrs. Modesta P. Mah, LVN and Mr. Earl A. McIntosh, health technicians who work in the Mobile Hearing Conservation Audiometric trailer (MOHCAT), located at 32nd Street, Naval Station Branch Clinic. They are monitoring self-recording audiometers during hearing testing.*

Dr. Kidder is Coordinator of the Hearing Conservation Program, NRMCC San Diego, CA 92134.





*Dr. Kidder using a clinical audiometer to do differential diagnostic audiometric testing in the Audiology Section of the Otolaryngology Service, NRM C San Diego.*

terns specifically related to lesions of the inner ear. These patterns point to the cause as well as the location of the lesion causing the hearing loss. For example, a hearing loss caused by endolymphatic hydrops will react differently to certain tests or will have a different history, etc., than a hearing loss caused by destruction of the nerve endings. Medical and surgical treatment can often be given for hearing loss not caused by nerve-end destruction (sensori-neural). There is no medical or surgical treatment for sensori-neural hearing loss, although the person with sensori-neural hearing loss can often be helped by a hearing aid. Still more sophisticated tests to detect more central lesions are in the audiologist's armamentarium.

The naval military audiologist must continue these traditional services as well as expand his participation in and the utilization of his training and knowledge to assist in the prevention of hearing loss due to noise.

Hearing loss related to noise is caused by high intensity sound signals (and type of sound) bombarding and destroying nerve endings in the ear. Once these nerve endings are destroyed, the hearing is gone forever. Amplification, i.e., hearing aids, can help the victim in many cases, but it is obvious that prevention of the loss is the best solution.

Where does the audiologist fit into the program for the prevention of noise-induced hearing loss? It may be valuable to quickly outline the major components of the Navy's Hearing Conservation Program (OPNAVINST 6260.2). These components are:

- Noise measurement and exposure analysis to identify hazardous noise areas/sources and the personnel exposed.
- Engineering reduction of noise levels to reduce the potential hazard to the maximum extent feasible.
- Periodic hearing testing to monitor the effectiveness of the pro-

gram, with timely medical evaluation of personnel who demonstrate significant threshold shift.

- Use of hearing-protective devices where administrative and engineering controls are not feasible, or as an interim measure.
- Education regarding potentially hazardous noise areas/sources to inform personnel of the potential hazard and of the command program.

In short, the idea behind a hearing conservation program is to keep people from hazardous noise. If that cannot be done, hearing protection must be provided and hearing must be monitored to insure that protective measures are working. Lastly, people must be informed about the hearing conservation program and why it is important to them.

The audiologist's background is uniquely fitted to coordination of services in this area. It includes noise analysis and control, the elements required for valid hearing testing, the physiological and psychological results of noise, and communication training. The audiologist is the only health care professional whose entire career is dedicated to hearing and its importance to the individual.

Contingency plans are not complete at this time; however, the audiologist might serve with the otolaryngologist close to the front of a future military action, as part of a second-level triage team, in the determination of the etiology, severity, and validity of battlefield-connected hearing loss. The audiologist is the only professional specifically trained to the skill level needed in the tests used to differentiate between sensory and fictitious or "functional" hearing loss. This placement could save manpower, time, and money in a situation where all of these may well be critical to lives. □



# The Fleet Hospital Program

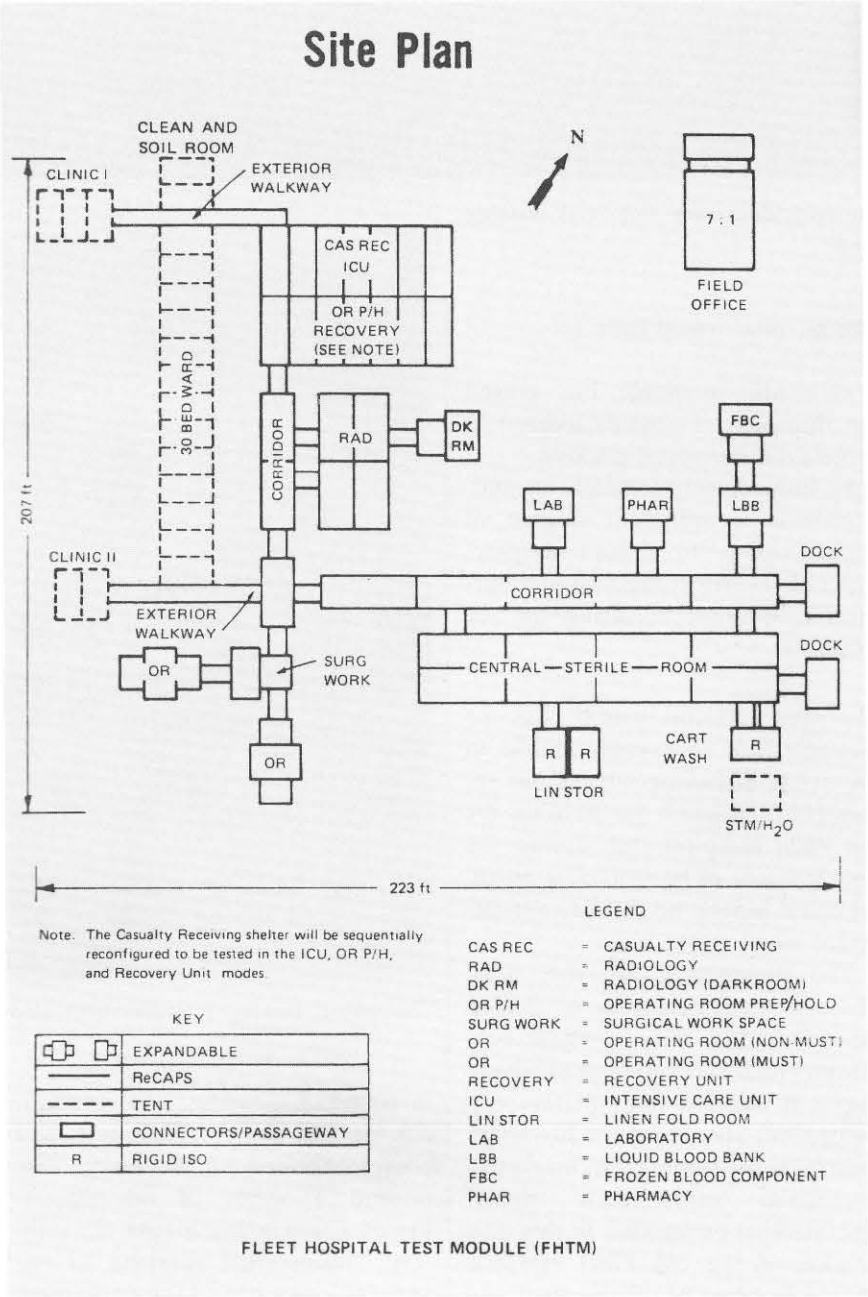
RADM Almon C. Wilson, MC, USN

The Navy Fleet Hospital is once again appearing on the scene after being absent since the end of World War II. Throughout the hectic days of the Pacific island-hopping campaigns, Fleet Hospitals were deployed at many forward bases and islands, providing critical medical and surgical care. The structures of the World War II vintage Fleet Hospitals were similar to the "hooches" of Vietnam, hastily constructed of plywood and ultimately abandoned.

The new Fleet Hospital derives its form from a different set of requirements generated by a major change in strategic thinking. In previous times, there were periods of tension during which nations prepared for war and were able to procure and/or construct facilities in appropriate locations to meet the upcoming hostilities. Now there is no warning. Wars are being described as "come as you are" affairs. These conflicts that start with very little warning will likely be short and intense. Major battles will be fought and decided, and hostilities brought to a halt within a period of days to months as opposed to years in prior wars.

In developing the concept of the new Fleet Hospital, recognition came at the outset that certain requirements would have to be met.

Dr. Wilson is The Medical Officer on the staff, Commandant, U.S. Marine Corps, and Director of the Fleet Hospital Program.





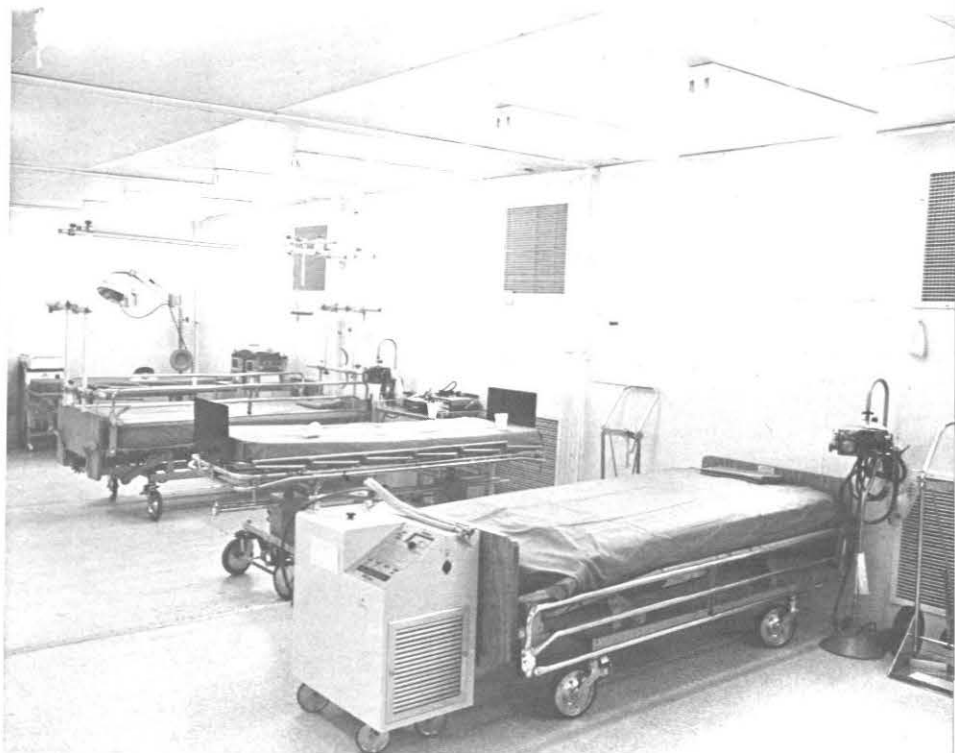
*Casualty Receiving Unit with loading dock.*

The hospital would have to:

- be readily available, i.e., poised for shipment or already located in some predetermined position,
- be immediately serviceable, and
- provide a sufficient degree of sophistication to permit employment of the latest medical and surgical techniques in caring for the wounded.

The new version would also be movable (not necessarily mobile in the sense of having wheels but relocatable). Should the location for the Fleet Hospital shift during the development of hostilities, a hospital could indeed be moved to a different site.

The immediacy of the need dictated another series of design limitations but some of those constraints turned out to be real advantages. It was felt that shelters and equipment should be readily available from the commercial market as essentially "off-the-shelf" items. The medical equipment in this new version of the old Fleet Hospital should likewise be off-the-shelf and



*Casualty Receiving/Intensive Care Unit*

in common everyday use throughout medical centers, hospitals, and clinics operated by the Navy. This offered a series of advantages. Prices would be lower than the military "hardened" versions of the same equipment and the equipment

would be more readily available from the industrial market. Moreover, spare parts would be on hand in most places and biomedical electronics technicians (BMETs) familiar with the equipment would be available to use, maintain, and re-



*Thirty-bed nursing ward. Note fly leaf that helps keep it cool and air conditioning units with ducting and associated electrical distribution panels.*

pair it. It was stipulated that no research and development be required to develop the concept, design the facility, or procure and operate the hospital.

### **Configuration**

The Fleet Hospital consists of three elements: the medical/surgical core, medical support, and base support. The medical/surgical core consists of casualty receiving, x-ray, darkroom, central supply rooms, the blood bank, laboratory, pharmacy, and operating rooms. The medical support element contains patient wards and ancillary services such as physical therapy clinics, etc. The third element is the base support camp, i.e., troop and staff berthing, feeding, etc. (See following list)



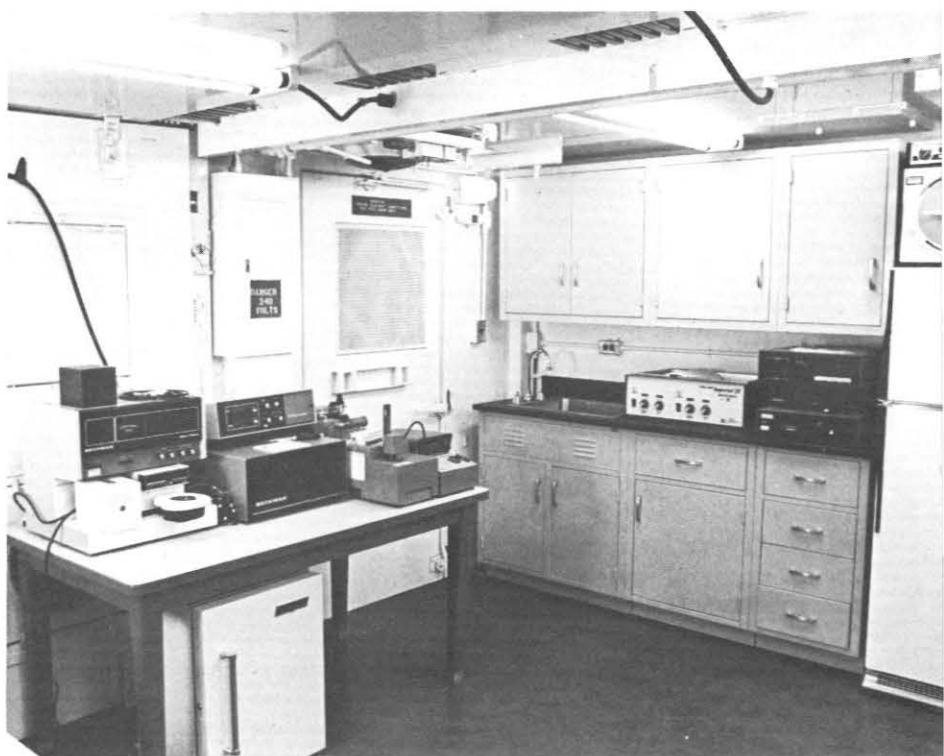
*The 30-bed nursing ward from the inside*

### *Medical Core Units*

- Operating Rooms
- X-ray Rooms
- Decontamination/Sterile Rooms
- Operating Room Scrub Facilities
- Casualty Receiving and Treatment
- Surgery Preoperative
- Pharmacy and Clean Storage Room
- Intensive Care Units
- Recovery Room
- Laboratory
- Blood Bank
- Cast Room
- Automatic Data Processing Capability

### *Medical Support Units*

- Patient Wards—Surgical and Nonsurgical with Treatment Rooms
- Physical Therapy
- Preventive Medicine



*Blood lab with modern hospital equipment*



*Operating Room*

- Ophthalmic Lens Laboratory (single vision)
- Medical Supply Service
- Medical Records Service
- Dental Service
- Dispensing Pharmacy (wards and outpatient services)
- Outpatient Facility (EENT, GU, Gyn, sick call)
- Medical Administration
- Morgue
- Decontamination Center

### *Base Support Units*

- Food Services (hospital and staff)
- Laundry
- Staff Quarters
- Internal Communications
- Internal Facilities and Equipment Maintenance
- Shower and Head Facilities (hospital and staff)
- Fire and Security
- Internal Utilities (electric, heating, ventilation, air conditioning, water, sewage, and steam)



- External Communication
- General Administration (non-medical supply, contracting, personnel management, disbursing, postal, bank, library, exchange, personal, and other services)
- Transportation (ambulances, buses, trailers, and maintenance facilities)
- Helicopter Operation Facilities

The Fleet Hospital planners determined the need for several hospital sizes, and a modular approach would permit each field unit to tailor its size to the specific tactical or strategic situation it faced. Based on the fact that the hospital modules are essentially self-contained, it is possible, for example, to add

another laboratory module if further laboratory services are required. Similarly, operating rooms, blood banks, darkrooms, and pharmacy units could be used to expand an existing capability to meet unforeseen or unplanned requirements.

In the course of development, a variety of shelter modes were examined: the MUST (Medical Unit Self-Contained Transportable) units of the Army, including their expandable and rigid wall shelters; tents, both old and new; and a series of International Standardization Organization (ISO) containers (8' x 8' x 20' "boxes"). Some of the ISO containers have foldout sides that provide for expansion of the floor space to either double or triple

the shipping size. Also evaluated were the Marine Corps Expeditionary Medical Shelter Systems (MCEMS). (A series of ISO containers transportable either in their knockdown or assembled form provide a similar type box facility.)

The planners determined that no single shelter type would suffice for all purposes in the Fleet Hospital. Enough specific requirements existed, and this problem could only be solved by a mix of shelters. For example, the operating rooms were ideally suited to the utilization of the three-for-one shelter. This expandable ISO container offered the option of shipping at least part of the surgical suite equipment in the box during transit. It could then be erected and suitably equipped with a minimum of time and effort.

In contrast, the receiving wards, the recovery rooms, and intensive care units require large open spaces for maximum utility. These spaces are best provided by structures in the form of panels, knocked-down flat and rapidly erected on-site with minimal difficulty.

Cost considerations precluded the acquisition of containers or panelized structures for the entire hospital. Therefore, a form of ward tent was necessary. This was not a tent in the traditional sense, but a newly designed tent with a lightweight frame that would allow for unobstructed open space inside. The tent would feature high side walls with a greatly reduced slope, windows, rigid door frames, and above all, it would have a firm plywood floor to permit the use of gurneys and other wheeled carriages. The Army Research Laboratory at Natick, MA, developed and designed this new "TEMPER" tent. In the course of its development, Natick Lab allowed for insulating the tent through the use of a liner that, while still under development, holds great promise of making this



*Central Sterilizer Room*



*Operating Room module supported on leveling jacks*

new shelter very habitable in both hot and cold climates.

### **Program Development**

The concept development and equipment and shelter selection were initially undertaken in the fall of 1976. As events transpired, the Civil Engineer Support Office at Port Hueneme designed the facility at the direction of the Naval Facilities Engineering Command (NAVFAC) and under the general technical guidance of the Fleet Hospital Program Coordinator. The Fleet Hospital Support Office was set up at Port Hueneme in the summer of 1979, and CAPT L.D. Hagedorn, Supply Corps, USN, became the Officer in Charge. Design, development, acquisition, receipt, assembly, storage, shipment, placement, and support of a deployed Fleet Hospital is an exercise in logistics in the most complete sense. CAPT Hagedorn, with long experience in logistics, provided the needed expertise for the implementation of the Fleet Hospital Program.

Procurement began in FY79 with the acquisition of representative examples of the major shelters and

the purchase of at least one of every piece of equipment to be used in the hospital. The prototype assembly was designed to evaluate equipment fit, test the suitability of the shelter for housing and using the

equipment, and determine whether panelized structures were compatible with tents and expandable buildings. A series of two field shakedown tests were planned, the first of which was recently completed at the Marine Corps Air Ground Combat Training Center at Twentynine Palms, CA. There, Reserve Seabees, under the direction of a cadre of Seabees from Port Hueneme, erected the test assembly with shelters and equipment. It was unpacked, assembled, and operated in the heat and low humidity of the desert and only minor discrepancies were found. The prototype will be returned to Port Hueneme and subsequently transported to the Marine Corps Mountain Warfare Training Center at Pickel Meadows near Bridgeport, CA, early in 1981 for winter testing.

### **The Fleet Hospital in Action**

When deployed in support of combat forces, the Fleet Hospital



*RADM C.H. Lowery, MC, stresses a point about the Fleet Hospital's blood laboratory.*

will provide an in-theater "people repair facility" to insure the continuation of manning for contingency combat operations. The conservation of trained, experienced military personnel and the prompt return to duty of skilled manpower are critical.

The Fleet Hospital can be deployed to meet a variety of requirements in the theater medical system. It could be set up in the rear combat zone, or deployed in the communication zone, receiving casualties from Marine Corps organic medical elements in the combat zone, from casualty-receiving aboard treatment ships of the amphibious task force (LHAs, LPDs, LPHs, etc.), or from hospital

ships operating in the area. In the communications zone, the Fleet Hospital could also function as an acute treatment center for prompt delivery of recently wounded patients from a nearby combat zone. It could serve as a convalescent center for those patients treated and awaiting return to duty, or function as the evacuation, holding, or control point for patients who have been treated and are awaiting evacuation to CONUS.

Throughout the development of both the Fleet Hospital concept and the prototype facility, there has been close coordination between the Army, Navy, and Air Force. The other services have shown considerable interest in the Fleet Hospital,

and the sharing of concepts and ideas has been an example of effective triservice cooperation.

The Fleet Hospital has been designed to meet the current need for a readily available, sophisticated, multipotential medical surgical care facility that is deployable and readily erectable. It meets the clinical requirements for providing the combat wounded with appropriate levels of care. It fulfills our national obligation to provide the best medical treatment to our fighting forces. The Fleet Hospital program is a vital one, and the prospects for its maturation are good. The second generation of Fleet Hospitals should have its first new family members in 1983. □

## Desert Shakedown

The Fleet Hospital concept requires both a desert-summer and mountain-winter evaluation of the prototype. Last July, the first shakedown occurred in the high desert 135 miles east of Los Angeles at the Marine Corps Air Ground Combat Center, Twentynine Palms, CA.

Located on the lee side of the rugged San Bernardino Mountains, the Nation's largest Marine Corps base provided an ideal environment—an arid, gusty, treeless desert with afternoon summer temperatures exceeding 110° F. The objective of the extreme climate testing, both summer and winter, is to determine the functional capability of off-the-shelf-type shelters and equipment in meeting the medical mission of the Fleet Hospital system.

The prototype was constructed at the Naval Construction Battalion Center, Port Hueneme, CA, and disassembled, packed, shipped, unpacked, and reerected at Twentynine Palms by Reserve Seabee forces and medical technicians.

By the first of July, it was fully erected and ready for inspection. On that day, personnel from the three armed services toured the facility. Many activities were represented—engineers from the Naval Facilities Engineering Command (NAVFAC), budget analysts and logistics specialists from the Office of the Chief of Naval Operations (OPNAV), a represen-

tative from the Surgeon General's office, and several of his consultants from the National Naval Medical Center, personnel who would be involved with staffing and public relations, representatives from the Defense Medical Materiel Board, and physicians, dentists, nurses, and corpsmen.

After a briefing by Fleet Hospital Support Office personnel, the observers toured the site. Rather than being presented with a *fait accompli*, they were encouraged to critique what they saw—and that meant equipment, construction, design, etc. In the Fleet Hospital concept, neither the modules nor the equipment is specially designed to fit the specifications of the other. The marriage of existing off-the-shelf components permits flexibility. What the observers witnessed was not a finished product but one that will be refined and perfected after all the shakedowns are completed.

Although there were suggestions for improvement, few observers came away disappointed. Except for the correction of minor construction errors, few if any other changes will be made until after the mountain-winter shakedown is completed next January/February at the Marine Corps Mountain Warfare Training Center, Bridgeport, CA. At that time, the planners will assess the evidence and, if necessary, improvements will be made. —JKH



# Health Fair: Tool of the Future?

LTJG Daniel A. Wilbur, MSC, USNR

In these days of increasing demand on naval medical facilities, it is not uncommon to find health care administrators trying to insure that the same high quality of health care in our facilities today will exist for future populations. As with many health care systems, the Navy is faced with fiscal and manpower constraints.

NRMC Camp Lejeune, NC, feeling the pinch, decided to find a means of increasing its efficiency. It was in the Outpatient Department, where the yearly patient load averages 250,000, that the concept of "facility demand" or "hospital-seeking behavior" was first recognized.

The traditional means of increasing a system's efficiency is simply to increase its manpower or equipment. However, in a military treatment facility such as ours, we needed to increase operational effectiveness with the existent num-

ber of medical personnel, available facilities, budget authorization, and time schedule. The question was asked, "Can we research hospital-seeking behavior and develop a means to control or reduce the demand upon our facility?"

A decision was made to identify the main "service population," the group that was using our facility the most. In addition, we hoped to identify the major causes of hospital-seeking behavior. The question then would be whether that population's medical problems could be addressed prior to reaching our facility.

The study design was based upon a careful review of the records in the Outpatient Department Medical Records section. The sample to be studied was chosen randomly and entries were analyzed from 1 June 1979 to 7 Sept 1979. The following data was collected from each record:

- Status of patient (dependent wife, etc.)
- Social Security number of sponsor
- Chief complaint
- Last date of visit to hospital

The data collected were based on a review of 100 records, closely approximating the number of patients seen in the clinic in an average day. The data was then statistically mapped into high areas of utilization with respective geographical boundaries. Efforts were then made to look further into the data to identify the clinical symptoms most frequently presented in these target service populations.

The data were analyzed and depicted graphically in Figures 1 and



*Many expressed interest in the Health Fair and its services.*

2. The largest target service population using outpatient services is the greater Jacksonville area. Further analysis revealed that out of the 45 percent target utilization in this area, the most frequent complaints were nonspecific upper respiratory and gynecologically related. Based on the randomness of the data and the representativeness of the sample, we felt these conclusions were of a nonspurious nature.

The NRMC Outpatient Department exists in an open system of continuous flow where percent output/time can be seen as a measure of efficiency.

Patients In (Input) — Outpatient Department — Patients Out (Output)

As a means of reducing the



*Staff members participate in the blood pressure screening.*

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demand units on the system, we decided to employ the "Health Fair" concept.

For the most part, the majority of medical problems are not extreme. However, commonly experienced symptoms such as an itch, the sniffles, or a low-grade fever leave an individual somewhat confused. The problem often doesn't seem serious enough to warrant a doctor's visit yet, on the other hand, it isn't one that should be ignored. The health fair helps those individuals who find themselves in this gray area and who, in fact, represent potential demand units on the

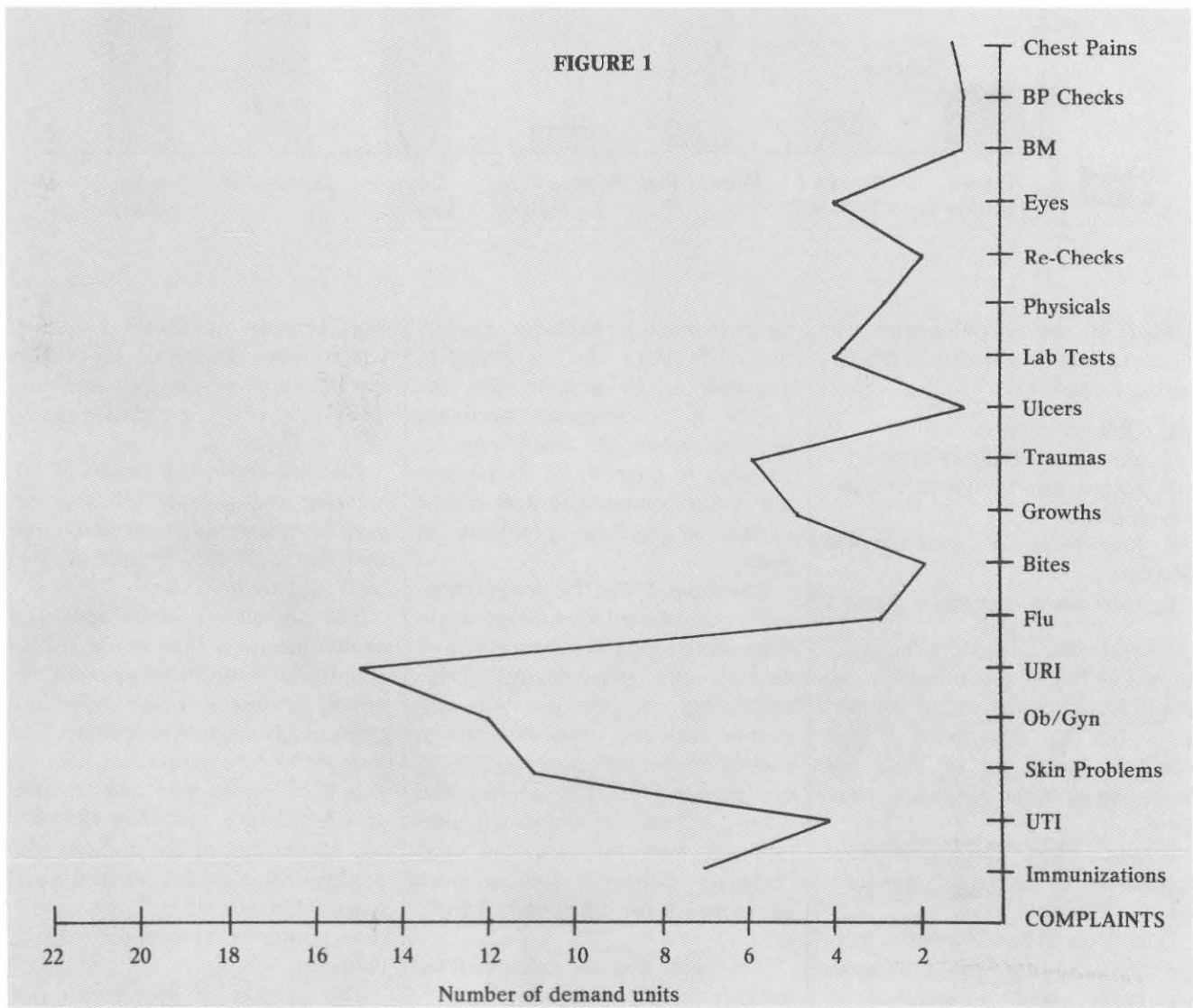
NRMC. One of the underlying concepts of the project was that a higher level of health awareness/education could help bridge the gap between the community and the clinical experience.

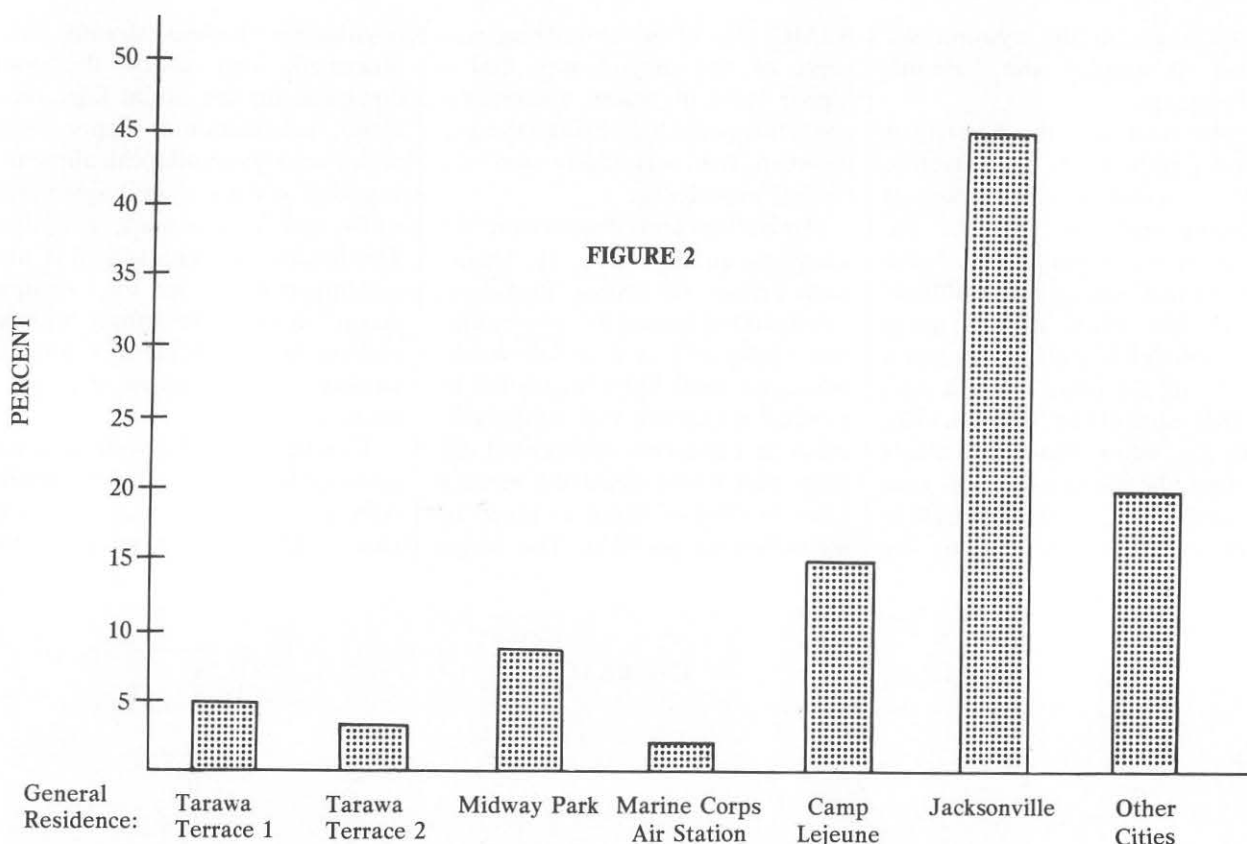
Motivation and enthusiasm developed quickly and it wasn't long before the Navy Recruiting Command arranged for a recruiting van configured as a *mobile health education unit*. The van, staffed by medical personnel, was temporarily converted to house audiovisual displays that would assist the medical team in disseminating as much information as possible. The target

populations, having already been identified, were to be the main emphasis for the initial fair. As a result, information on upper respiratory and gynecological ailments, venereal disease, family-planning, colds, and flu was made available. The health fair represented a unique opportunity to get the "straight scoop" from professionals without making an inconvenient, time consuming, or expensive trip to a doctor.

To assess the effectiveness of our undertaking, we decided to administer pre- and post-visit questionnaires. Efforts were made in the

FIGURE 1





design of the questionnaires to measure the fair's impact in the following categories:

1. Opinion survey
2. Hospital-seeking behavior
3. Knowledge of upper respiratory ailments
4. Knowledge of gynecological ailments
5. Increase in categories 3 and 4

A systematic analysis of the questionnaires began approximately one month following the end of the fair. It was felt that this period of time would be sufficient to allow for change in all of the above five categories.

Figure 3 shows the classification frequencies for the population studied.

Questions 1 and 2 on the prequestionnaire represented an opinion survey and a measure of

hospital-seeking behavior respectively. Of those who responded to question 1, 86 percent felt the health fair addressed pertinent problem areas. Of those who responded to question 2, 91 percent felt better equipped to deal with a variety of medical problems at home.

Questions 3-6 on the prequestionnaire represented knowledge questions directed toward the upper respiratory and gynecological symptomatology. A prescore was calculated with one point assigned to each question, making a total possible prescore of four points. The majority of military dependent participants were females, and their respective percentages of prescore performance can be seen in Figure 4.

A prescore was also calculated for military dependent females answer-

ing correctly questions 3 and 4, which were directed specifically toward upper respiratory ailments. The results of this calculation can be seen in Figure 5.

Figure 6 shows the results of calculating the overall military dependent responses to question 1 and question 2 (health insight or hospital-seeking behavior).

The postquestionnaire consisted of six questions that would reflect hospital-seeking behavior with respect to upper respiratory and gynecological symptomatology. The number of data points was not sufficient to statistically evaluate the post-health fair response of male, but 75 percent of the military dependent females did show a post-score of 5 which did reflect a significant reduction in hospital-seeking behavior.

The number of post-health fair

**FIGURE 3. Population Classification Frequencies**

Number of Health Fair Participants	
Total Number	250-300
Completed prequestionnaires	72
Completed postquestionnaires	15
On Base participants	9
Off Base participants	63
Age: 20-24	23
25-29	11
30-34	8
35-39	6
40-49	9
50-59	9
60 +	6
Male participants	22
Female participants	50
Military	16
Military dependent	22
Civilian	34

responses obviously limits the degree to which initial impact can be correlated to post-health fair behavior. However, the initial questionnaires have to be considered significant in that they were produced following exposure to the health fair. Of additional significance are the comments that were included on the questionnaires. The following is a list of major subjects requested for future health fairs:

- Teenage pregnancy
- Job-related stress
- Thyroid problems
- Respiratory/Running
- Knee and heel injuries
- Headaches
- Drug Abuse
- Child Abuse
- Breast cancer
- Safe nonprescription medication

From the above list, it is obvious that there is interest in the continuation of the health fair concept and the broadening of its scope.

This analysis has attempted to assess the impact of a health fair on the potential demand of the NRMCC. The scope of this project is not sufficient to account for all extraneous factors that exist in the area of "hospital-seeking behavior." However, the data does suggest that potential health care beneficiaries are receptive both to a decentralization of the health care delivery system and an overall emphasis placed upon health as opposed to sickness. This analysis was plagued with the expected problems of lack of and uniformity of data; consequently, it fails to substantiate absolute quantitative conclusions. However, the justification is apparent that well planned and coordinated health fairs could represent valuable tools to medical professionals and serve to increase the efficiency of existent and future health care delivery systems. □

**FIGURE 4**

	Prescore				
	0	1	2	3	4
Military Dependent Females	4%	14%	10%	48%	24%

**FIGURE 5**

	Prescore		
	0	1	2
Military Dependent Females	33%	57%	10%

**FIGURE 6**

	Positive Responses to Questions	
	#1	#2
Military dependent males	50%	50%
Military dependent females	47%	51%



## Marine Comments on Hospital Corps Birthday

Events in the Indian Ocean and other centers of American maritime activity have focused national attention on a nagging problem facing our Navy. Namely: How do we get and keep enough trained and experienced sailors to keep ships at sea in the face of a rapidly rising tempo of worldwide operations?

That question is of vital concern to everyone who cares whether or not the United States continues to survive as a world power. It has special significance for Marines. Consider this scenario.

In the face of a growing need to put more sailors out to sea on combatant vessels, Navy planners are forced to cut back the number of people committed to duties that don't directly involve manning ships or fleet support activities.

Suddenly, the Supply Corps, Civil Engineers, Dental and Medical Corps find themselves shockingly short-handed as most of their manpower is shifted to ships at sea.

Everyone in military uniform has had to live with belt-tightening brought on by being short-handed, so it's no immediate big deal.

New tactical construction is reduced at most naval bases and many of the nice-to-have services can't be provided, but ships are steaming and international commitments are being covered.

And then the Marine Corps is ordered into one world hot-spot or another. Marine support commands are raped to fill the ranks as usual, but there's a more pressing concern

as heads are counted prior to embarkation. Suddenly no one can find enough medical corpsmen to fill out the ranks. Marines will face having their flesh torn or holed in combat without the reassurance that competent, dedicated medical men will be there to see they get an even chance at survival.

Frankly, that scenario scares the hell out of me. If it weren't for the skill, dedication, and utter fearlessness of one or two Navy corpsmen, I wouldn't be here to tap out this inspiring prose today. As a veteran, I want absolutely no part of a war, firefight, long march, or liberty in a foreign port without a corpsman at my beck and call. I value my hide—such as it is—and I trust corpsmen to see that it stays intact.

Navy hospital corpsmen have been an integral part of Marine Corps life since the days of snipers in the rigging of sailing ships. Loblolly Boys policed up parts of Marines blown asunder by shot and shell in those days and they've continued to do that, and more, throughout our combat history. There's a certain psychological comfort in having Doc around when you're pinned down or penetrated by one sort of missile or another. Marines are more likely to take those hairbreadth chances that turn the tide in combat if they feel someone is going to insure they won't simply bleed to death if wounded in the endeavor.

But we continue to generally ignore the corpsman or take him for granted like the water in our canteens. I'm afraid we don't know what a valuable asset we have in corpsmen and won't until they're gone.

When I first came in the Corps,

medical corpsmen were proud of their association with the Marines. They had a sort of perverse elitism and made sure every other sailor in earshot knew that they were tough and rugged and lived "out there in the bush" with the FMF. I perceive that some of that has vanished today and, since the corpsmen I talk to seem to be the same sort of dedicated, motivated people they were years ago, I can't help but blame the disintegration on the Marines.

It's time we brought our Fleet Marine Force corpsmen back into the fold—all the way in. It's time we started giving them the respect and help they're due for voluntarily living our lifestyle and putting up with our complaints, both petty and ponderous.

In case you don't have the date circled in red on your short-timer's calendar, 17 June was the anniversary of the founding of the Navy Hospital Corps. I wonder how many Marines attended the local observances. I wonder how many Marines even bothered to wish their own corpsman a happy anniversary.

If past performance is any indicator, not many Marines noted the occasion. But the Doc will be there on the occasion of your first or next Purple Heart. I can guarantee it if the Navy is able to solve its pressing manpower problems and if we make the corpsmen feel they are needed and wanted.

Men and women of the United States Navy Hospital Corps, here's a public salute. I'll make it more personal the next time I see you.

—Story by LT Dale Dye, USMC

Reprinted from the *Okinawa Marine*, 20 June 1980





## Soviet Naval Medicine

### Gorshkov and the New Soviet Navy

CAPT R. Paul Caudill, Jr., MC, USN

*A Soviet Kashin class destroyer, bristling with sophisticated radar gear, shadows the nuclear carrier USS Nimitz.*

*On a crystal clear day somewhere in the eastern Mediterranean, an attack submarine edges in for a closer look and nearly surfaces in the path of a U.S. missile frigate.*

*In the North Atlantic, Soviet vessels and reconnaissance planes monitor a U.S. naval force conducting flight operations.*

*All this activity is nothing new. On every ocean, a once dominant U.S. Navy is being challenged by a burgeoning Soviet naval presence. Twenty years ago, the Soviets were already flexing their naval muscles.*

*In 1964, Dr. Robert Paul Caudill served as Senior Medical Officer and Medical Department Head aboard USS Compass Island. In his first months at sea, he saw Soviet vessels paralleling the course of his*

*ship. Back then, they were trawlers —intelligence-gathering vessels shadowing the movements of Compass Island as she steamed the waters of the mid-Atlantic. By 1970, the ships on his horizon were more sophisticated and perhaps more subtle as they traced the movements of Ticonderoga and Bon Homme Richard through workups and deployments in the Tonkin Gulf. By the mid-70s, the vessels were modern combatants, tracking the movements of Nimitz as she made her maiden northern European deployment with Dr. Caudill aboard as her senior medical officer. On that cruise, he saw the periscope of a submarine disappear under the angle of the flight deck as the ship's crew braced for a collision. No collision occurred but, without doubt, he felt, the Soviet captain must have had second thoughts about his own aggressiveness. At the time, Dr. Caudill wondered if there was a physician aboard that submarine, and where he had been when the alarm sounded on his vessel.*

*In the months and years that followed, Dr. Caudill often asked himself if somewhere in the Soviet fleet he had a counterpart, equally busy with the work of the ship on which he served. On a subsequent assignment as Force Medical Officer for the Commander Naval Air Force, U.S. Atlantic Fleet and staff medical advisor to the Commander, he grew more aware of the growth of the Soviet Navy and its increasing tactical strength. He was already well familiar with the complexity of the U.S. Navy Medical Department's mission and how its members were expected to be trained, equipped, and ready to care for those who serve at sea. Planning, drilling, and exercising were meant to insure naval medical readiness. As it is with our own Navy, it is similarly demanding for that of the Soviets.*

*The following series, beginning this month in U.S. Navy Medicine, is based on a review of Soviet military medical literature. It presents a brief picture of how our counterparts in the Soviet Union develop,*

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*The Soviet destroyer Sderzhannyi cruises near USS Nimitz during the nuclear carrier's recent deployment in the Indian Ocean.*

*order, and carry out their mission in naval medicine. There are many similarities in problems they face, and many differences in methods of solution. However, the extensive dedication of resources to naval medicine indicates the significance attached by Soviet naval leaders to readiness—readiness to support operations at sea.*

Sergei Georgiyevich Gorshkov was born on 26 Feb 1910 to Russian parents living in the Ukraine. Graduating from the Frunze Higher Naval School in 1931, he advanced rapidly as an officer among his contemporaries, and by 1937, was serving as commander of a Soviet surface ship in the Pacific. By 1941, he was the commander of a cruiser brigade serving with distinction in the Black Sea. As a result of his service in that campaign, and his

meteoric progress, in October 1941, he was appointed rear admiral. Only 10 years had passed since his graduation from the advanced naval school. During his early years of service, he was recognized by ADM Nikolai G. Kuznetsov, who was to become Commander in Chief of the Soviet Navy. Subsequently, ADM Gorshkov served close to Kuznetsov and other individuals prominent in the Soviet hierarchy. In 1951, Kuznetsov was reappointed Commander in Chief of the Soviet Navy; later, Gorshkov was appointed his deputy. In June 1956, at 46 years of age, Gorshkov was appointed Commander in Chief of the Soviet Navy, the youngest individual ever to serve in that role! (1)

In summary, Gorshkov's career has been remarkable. He rose to flag rank quicker than Lord Nelson and has stayed at the top longer

than Arleigh Burke. He is the architect of the new Soviet Navy whose accent is on sophisticated missile-armed submarines, ships, and aircraft. Now 64-years-old, he may be near the end of his spectacular career. Regardless of what his future plans may be, historians will surely judge Gorshkov as one of the most influential admirals of the twentieth century. (2)

Those words were written in 1974.

Like Themistocles of Greece and Agrippa of Rome, who were the architects and administrators of the fleets with which they subsequently fought, (3) Gorshkov carefully planned and successfully executed the evolution of the new Soviet Navy.

In a manner unprecedented in the twentieth century, Gorshkov set a course for the Soviet Navy which



would bring it to a level of strength from which he could boldly say, "The flag of the Soviet Navy flies over the oceans of the world. Sooner or later the United States will have to understand it no longer has mastery of the seas." (4) Gorshkov was to obtain from the leaders of the Soviet Union the resources required to bring his vision to reality. The course plotted for that effort came, in great part, from his understanding of the lessons of the past.

An example of the lessons learned most painfully by the Soviet Navy was that of the Russo-Japanese War, 1904-1905. Gorshkov reports that the Czarist naval leaders were indecisive and failed to move a squadron from the Baltic to join the Pacific Fleet. The Pacific forces, unaugmented in defense of Port Arthur, were rendered ineffective by both the lack of timely reinforce-

ment and by faulty tactical decisions during the defense effort. When finally the decision was made to move a Baltic squadron to the Pacific, the Baltic units faced a new experience. They were forced, Gorshkov reports, to steam with a large fleet of ships, some of which were not seaworthy. There was no leader experienced in long cruises over the oceans. Over the entire course of the voyage, the squadron had no Soviet-controlled port for a haven. After a voyage of over seven months, the squadron entered the Korean Straits on 14 May 1905. The Japanese fleet was waiting, the battle of Tsushima ensued, and the Russian squadron, unable to join with the already neutralized Pacific units, was soundly defeated. The many lessons of this historical deployment and battle were not lost on Gorshkov. (5) The intricacies of the "long cruise" became tasks for mastery set by Gorshkov in his plans for the new Soviet Navy.

As the Soviet naval forces began to grow under Gorshkov's guidance, the need for supporting services grew similarly. Although mention of medical services are rarely encountered in his writings, ADM Gorshkov clearly acknowledged the importance of man in the combatant equation.

The development of the means of armed struggle is placing ever higher demands on the morale and fighting qualities of personnel. Victory in a present-day war can be won only by the armed forces, consisting of fighting men boundlessly devoted to the Party and the Soviet people, disciplined, possessing high general and special training, physically hardened and resilient. Ever more stringent demands are placed on crews of the fleet, especially the commanders of ships. Therefore, with the growth of the material base of the fleet and the development of naval art, there is an objective need

to work out new ways and forms of training and education, helping to form true masters of their craft, skillful seafarers and specialists in military matters. (6)

Gorshkov further states:

Yet, however technically advanced a navy may be, and however powerful the weapons it receives are, the foundation of naval forces will always be man—the master of all means of combat. (7)

In support of man, "the master of all means of combat," the Soviets have planned and developed methods of training and supporting the personnel aboard the ships. Individuals destined for naval service are often identified early in their education and training with their future naval service clearly in mind. To provide naval medical support, a highly specific set of institutions and programs provide training for Soviet naval medical personnel. Today, those practitioners of naval medicine are aboard Soviet merchants and warships abroad on the oceans of the world.

As the practitioner of naval medicine in the United States Navy stands at the rail of the combatant on which he serves, the sight of the sleek, heavily armed, and highly capable ships of Gorshkov's new Soviet Navy provokes many questions.

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## Commissioning a Ship: The Medical Perspective

LT G.J. Guzley, MC, USN

The order read "in connection with fitting out . . . LHA-5 . . . as prospective Medical Officer." I was in my office on USS *Durham* (LKA-114) when the notification came; I was being transferred to a brand new ship, still under construction, to organize and run the Medical Department.

For those not familiar with the LHA-class ship, or its medical

capabilities, let me say that the task, at first, looked overwhelming. I had spent three months on *Durham* following the completion of my basic medicine internship at NRMCC San Diego. The medical

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LT Guzley is Medical Officer aboard USS *Peleliu*.



*USS Peleliu transits the Panama Canal on 20 May 1980.*



facilities on *Durham* consisted of a combined pharmacy and laboratory, the main battle dressing station and two auxiliaries, an operating room, x-ray facilities, and a nine-bed ward. I was now in charge of organizing, supplying, and outfitting four operating rooms, two x-ray rooms, four battle dressing stations, a 17-bed intensive care/postoperative ward, a 52-bed primary ward, and a 300-bed overflow ward capability. The medical facilities on an LHA are the most complete of any ship in the fleet, and rival many shore-based hospitals. Nothing in my Saturday morning operational medicine "grey-boat" lectures had prepared me for this. It looked like a very big job.

I reported to the precommissioning training coordinator at the Fleet Training Center, Naval Station, San Diego, on 5 Oct 1979 to begin work. At first, I had very little to do, because very few of the crew had yet reported. I spent a great deal of time learning as much as I could about the LHA, its design capabilities, functions, and how the Medical Department fitted into the overall picture. I spent time speaking with medical officers aboard USS *Tarawa* (LHA-1) and USS *Belleau Wood* (LHA-3), and toured their medical spaces to better understand my own duties. I was fortunate to be able to offer suggestions on aspects of medical department construction while the Medical Department aboard LHA-5 was still being put together. By speaking with the two medical officers of *Tarawa* and *Belleau Wood*, I received a number of suggestions for improving medical department efficiency. These were passed along, and some were incorporated into the ship during construction.

At this time, the Medical Department consisted of myself and HMCS Herbert Garman. It was decided early that one of us should be at the

building site during the final phase of construction. HMCS Garman was transferred to Pascagoula, MS, the home of Ingalls Shipbuilding, in late October 1979, as the on-site Medical Department representative. We were in almost daily telephone contact, discussing everything from the color of the paint in the triage area, to the location of the cardiac-monitoring equipment for maximum advantage. Many small problems cropped up—positioning a valve on one wall instead of another, locating patient access ladders and oxygen outlets, among others. We resolved them all by phone.

As more people reported to San Diego for precommissioning training, our responsibilities increased. Of the 15 corpsmen originally planned for the ship, four had arrived by December. One of our jobs was the verification of the health records of each crewmember, making sure that all immunizations, audiograms, and dental exams were up to date. If something was lacking, the crewmember was provided with a 3 x 5 card listing what was needed, and he was ordered to correct the deficiency as quickly as possible. We received a great deal of support from the Naval Station Branch Dispensary, and HMCS Blake, the Dispensary Senior Chief, in expediting the completion of these requirements. Our emphasis paid dividends; by the time we reached our first foreign port, Colon, Panama, only four of the over 800 crewmembers and embarked Marines were not fully immunized.

Our prospective Commanding Officer, CAPT Thomas P. Scott, USN, emphasized the need for training during the precommissioning period. In addition to attending damage control and fire-fighting courses, required for all crewmembers, and the Navy 3-M (Manage-

ment and Material Maintenance) course for all officers and senior enlisted personnel, he asked me to provide special, medicine-related talks. With the help of the Naval Drug Rehabilitation Center at NAS Miramar, and the Alcohol Rehabilitation Service at NRMCMC San Diego, I was able to provide lectures on drug and alcohol abuse for the crew. Recognizing the dangers which the complex electronic components of the ship represented, both the Dental Officer, LT J. Wheeler, and I became certified Red Cross instructors in cardiopulmonary resuscitation, and began teaching crewmembers the techniques of basic life support.

By February 1980, my presence was required in Pascagoula. The ship was going to undergo acceptance trials, and I had to provide input to the inspectors on board regarding the Medical Department and its components. Our office in San Diego was running smoothly, thanks to the corpsmen; most had arrived by this time, and their training had been scheduled. Dr. Wheeler and I drove to Pascagoula in mid-February, arriving the day before trials were to begin.

My first impression of the ship's company on arrival at the shipyard in Pascagoula, was one of maximum effort, with appreciable results. As a department head, I was responsible to CAPT Scott for the final acceptance and outfitting of all medical department spaces. Our acceptance trials, conducted in the Gulf of Mexico 19-21 February 1980, went very well. A number of "discrepancies" were noted in the Medical Department, the majority related to matters such as the color a certain valve should be painted, or the amount of insulation required around a given pipe. Most of the problems I had discussed with the other LHA medical officers were brought up at this time. Although



*Commissioning Day at the Ingalls Shipbuilding dock, Pascagoula, MS.*

no change could be made that was not in the contract, many of the suggestions are being incorporated into plans for future yard periods. During this time, I acted mainly in the administrative capacity of department head, with less emphasis on the practice of medicine. We had to draft the departmental organization manual, as well as medical-related ship's instructions (heat stress, weight control, and hearing conservation and plans for medical department responsibilities during any and all contingencies ranging from the commissioning ceremony, to a public relations visit by 51 Miss USA contestants, to flight quarters and battle stations. A number of these plans were simply rewrites of similar work from other LHAs, evaluated and changed, if necessary, by either HMCS Garman or myself.

CAPT Scott accepted the ship for the Navy on 3 April 1980. We then had to move aboard, equip the medical spaces, train the corpsmen and stretcher bearers, and prepare for the commissioning exactly one month later. Our major bottleneck during this period was with the supply system. Our AMAL (authorized medical allowance list) was delivered piece-by-piece, making it very difficult to stock our 135 first-aid boxes, 15 first-aid lockers, and 4 battle dressing stations. By commissioning day, we had everything prepared, primarily by "borrowing" supplies from the medical facilities at USAF Hospital, Keesler AFB, MS, NARMC Pensacola, FL, and the branch clinics at NSA Pascagoula, and the Seabee base at Gulfport, MS.

During this last phase of the pre-commissioning period, all members of the Medical Department, who had arrived over the weeks, were involved in preparing their assigned areas (lab, OR, pharmacy, wards, x-ray, etc.) for full operation. This involved everything from inventory and stocking of the pharmacy (some of our controlled medicinals arrived as the ship was getting underway for Panama, and had to be hauled aboard by means of a hastily-concocted net) to some electrical repair work on a balky x-ray unit. We did have the services of a very fine medical repair tech, HMC G. Sedrick, the SUPSHIPS medical representative, during this time, and we appreciated every minute he was able to give us. He knew the LHA inside-out, and was able to give us much valuable information on upkeep of our specialized equipment. We also began holding sick-call regularly and, if necessary, admitted people to our inpatient ward. Since I was the only medical officer in Pascagoula, and the nearest military medical facility was at Keesler AFB in Biloxi, over 20 miles away, I

was asked to see referrals from the Spruance class destroyers in Pascagoula either under construction or in the yards. This was very much appreciated by the destroyer commands, because it saved them the inconvenience of sending someone to Keesler for a minor problem. Our inpatient log ranged from measles to an infected leg wound. Outpatient care was efficient, and thanks to the corpsmen, effectively delivered.

The Medical Department was expected to play an integral role in the commissioning ceremony, since over 4,000 invitations had been sent. We were responsible for the treatment of any injuries or illnesses that might occur before, during, or after the ceremony itself. We prepared for everything from spontaneous labor to cardiac arrest, and, by the day of the ceremony, felt that anyone in the department could handle the job.

Commissioning day, 3 May 1980, was warm and humid. Overall, we had very few casualties, given the size of the crew and the number of invited guests. At 1100 hours, USS *Peleliu* became an active part of the U.S. Fleet, and we reported to COMPHIBGRUEASTPAC for duty. The Medical Department was manned and we all felt confident that we could handle almost any problem. Our training, working, and learning together had paid handsome dividends. It had been an arduous task. I felt confident that I had done my best, and presented the ship and the Navy with a quality product; the best Medical Department in the Fleet. I am very proud of the job and the people I worked with. Running a Medical Department of this size is a large responsibility; putting it together from scratch, doubly so. I learned quite a bit about my own capabilities. The USS *Peleliu* is an experience I will never forget. □

# On Duty with the Israeli Defense Forces

## Medical Service is a Long-Term Commitment

RADM Clinton H. Lowery, MC, USN

Young, experienced, professional, and highly motivated are appropriate adjectives to describe the members of the Medical Corps of the IDF (Israeli Defense Forces). Unlike the U.S. Navy Medical Corps, that of the IDF comprises all disciplines of the health professions. It is composed of not only members of the Army but also the Israeli Navy and Air Force.

Because there is national conscription and the requirement that all eligible males remain in the active reserves until age 55, the overwhelming bulk of the Israeli Defense Forces including the Medical Corps are members of the active reserves.

Those in the active duty cadre of the Medical Corps comprise only about 10 percent of the total medical forces. It is their responsibility to provide headquarters management of both the active duty and reserve medical forces, the training of all members of the Medical Corps, and the provision of outpatient primary and secondary care for those on active duty.

Being an active duty medic in the IDF is an honored and highly esteemed position. In order to become a medic, a man must be fully trained as a member of his maneuver unit. He is then carefully

selected from among the top performers of his unit. This selection is made by the unit commander with the advice of the battalion medical officer. The selectee is then sent to the Medical Corps training base to receive 13 weeks of intensified didactic and practical training as a medic. He receives training in resuscitation, sick call practices, how to assist a medical officer, vena puncture techniques, medical administration, map-reading, and topography training. Medics perform surgical dissections and procedures on dogs. They are assigned 10 days of duty in a hospital emergency room and are required to observe at least one autopsy. Following their training, they return to their original unit and reestablish their identity with their unit. As a company medic, this man is directly assigned to his company and is responsible for that company's health. In some cases, the medic may be attached to a battalion medical unit, which is a separate unit of nine corpsmen and commanded by the battalion medical officer.

Since the training prepares these young men for many excellent civilian medical career opportunities, very few remain on active duty after they have fulfilled their draft requirements. Of those that do remain on active duty, many become line officers. Others become officers as medical administrators and still others receive extra training and rise in the enlisted ranks to become sergeants major. Career opportunities for medical adminis-

trators in the IDF are very limited. There are only three positions in the rank of full colonel for these individuals.

Since there is little need for active duty nurses, almost all are assigned to government hospitals.

The Medical Corps of IDF had no shortage of medical officers. The bulk of those on active duty were deferred from the draft to go to medical school. After completion of their internship in a civilian hospital, the medical officer enters active duty for a period of five years. Although deferred from the draft while in medical school, these young men are required to be members of the active reserves while in school. During their vacation periods they come on active duty for training. They are trained and then serve as medics with either active duty or reserve units. Consequently, by the time the doctor comes on full active duty he has had a good background experience and familiarization with the IDF.

The doctor is immediately sent to a three-month officers' training course. This is the same course given to all other officers. Following this, he receives an additional three months of training for medical officers. Not until after this six months of training, both as an officer and a military physician, can this doctor put on his rank of first lieutenant.

His first assignment will usually be that of a battalion medical officer for an infantry, paratrooper, or armored battalion. As the battalion

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Dr. Lowery is Assistant Chief for Health Care Programs, BUMED (MED 03), Washington, DC 20372. This article is based on a recent inspection tour of the IDF.





*Israeli wounded are transported to safety during the 1973 Yom Kippur war.*

medical officer, he is the commanding officer of his medical unit and is expected to be able to perform as a commanding officer as well as the medical advisor to the battalion commander in all areas of field medicine including medical planning, logistics support, evacuation strategy, and preventive medicine.

A medical officer ordinarily serves in the battalion for one to one and a half years. Only the best of these battalion medical officers (about one in three) will be chosen for advancement in career opportunities. The others will serve out the remaining two to three years of obligated service as lieutenants and as primary care physicians in base clinics for rear support areas. On leaving active duty, the physician will then serve in the reserves until the age of 55.



*A volunteer visits a wounded soldier.*



Those chosen for advancement are promoted to the rank of captain and become regimental surgeons. Again, only the best are chosen, promoted to the rank of major, and become brigade surgeons. They receive an additional six months of officer's training. In most cases the medical officer's five years of obligated service are up by the time he is selected for promotion to major.

If chosen for advancement, the medical officer is permitted to reenlist for a period of nine years. During these nine years he will spend three years in an active duty military status and six years in a government hospital either working in research or receiving training as a specialist. He may resign at any time as long as he gives one year's notice. Depending on his performance, the medical officer may receive advance training at a staff college. Those selected at the end of nine years are permitted to reenlist for a final five years of duty. During one of these last five years the medical officer is given a full year of sabbatical leave with full pay and allowances. He may eventually reach the rank of full colonel and will serve as a regional medical commander or as a department head in headquarters. One, of course will be selected as Surgeon General of the IDF and will be promoted to the rank of Brigadier General.

After 19 years of active service, the officer qualifies for retirement. If he leaves at any time before his retirement, he will remain in the reserves until age 55. All reserves will serve with the IDF 30 days each year either in an independent duty assignment or with a unit in a training or operational function.

Medical and dental officers receive special bonus pay which for medical officers makes their income slightly higher than their civilian

counterparts. Because of this, there is no retention problem for medical officers in the IDF. Consequently, only the very best and highly motivated are permitted to remain in an active duty status and make a career in the Medical Corps.

This is not true for dental officers. Because of the extreme shortage of dentists in Israel (about 2,500 as compared to about 10,000 physicians and of those 2,500 only about 500 are eligible for service), retention of dentists is very low. There are less than 50 dentists on active duty. Even the reserves have very few dentists. Dentists do not defer their conscription until after dental school. However, once they become dentists, they will serve in the reserves until age 55 as dental officers. One source of active duty dentists are active duty physicians who can sign up for dental training while on active duty. Under these circumstances they sign up for 12 years of active duty. They receive three years of dental training and then serve nine years as dentists in the Medical Corps.

As stated before, the career opportunities for nonphysicians in the Medical Corps are very limited. A few medics become officer medical administrators and slowly progress up to the rank of colonel. There are three positions as colonel for those administrators on active duty. These are the executive aide to the Surgeon General, the commanding officer of the Medical Corps Training Base, and the head of Medical Logistics. There are a few high positions for administrators in the active reserves either as commanding officers or executive officers of medical battalions or as evacuation officers.

There are many allied health professionals, technical specialists, and clinicians who may be on active duty, but they will not obtain rank higher than a major unless they

have proven they can perform in military administrative functions. Consequently, assignment to positions of higher rank is based on ability as an officer rather than clinical experience or seniority. There is a time requirement, however, for rank so that in some cases a major will be performing a colonel's job but cannot be promoted until he has significant time in grade. There are very few exceptions to this rule.

The Surgeon General has the authority to permit promotion above the rank of major to various selected medical specialists who have had sufficient time in rank. An example is the medical officer in charge of undersea medicine. Although he remains on active duty only in this role and is not involved in occupying a military leadership role, nevertheless he anticipates promotion to lieutenant colonel.

The opportunity to advance in rank in the reserve exists depending upon one's capability and the training he receives. An officer can be a commanding officer of a reserve medical unit such as a medical battalion. All medical battalions are in the reserves. When the commanding officer of a medical battalion is a physician, the executive office will be an administrator or vice versa.

In summary, the Medical Corps is primarily made up of reserve officers. The small active duty cadre supports the active duty troops and manages the reserves. The organization and preparedness of the reserves is outstanding. Every reservist is assigned to a unit. He and his unit have all their personal and unit equipment in a constant state of readiness in a designated warehouse. Mobilization and recall drills are common. Because of the high degree of nationalism and the small distances involved and the ever present threat every Israeli takes his responsibility as a reservist very seriously. □

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# NOTES & ANNOUNCEMENTS

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## FREEDOM FLOTILLA COMMENT

In regard to *U.S. Navy Medicine* 71(7):2, July 1980, the article "Freedom Flotilla" by LCDR M.D. Neuhart, USN and ENS Sue Wehrman, USNR, is incomplete.

What about all the Physician's Assistants that were brought in from all over the country to give medical care to the Cuban refugees, and to relieve the doctors so that they may return to their parent command? What about the Medical Service Corps officers who gave their time in logistics and administration? What about the Key West civil service employees who gave their time in support?

Lets make the story complete.

CWO3 G.W. Eastman, PA-C, USN  
Naval Regional Medical Clinic  
Key West, FL 33040

## AMSUS ANNUAL CONVENTION

The 87th annual convention of the Association of Military Surgeons of the U.S. will be held from 2-6 Nov 1980 at the Shoreham Hotel, Washington, DC.

The meeting will include continuing education programs for physicians, dentists, nurses, and other professionals. In addition to a major core education program, there will be research "meet-the-investigator" presentations, a Combat Medical Readiness course, and seminars for dentists, nurses, pharmacists, dieticians, and others in health-related fields.

For further information, contact: Mr. Robert R. Putnam, Chairman of Publicity Committee, VA Department of Medicine and Surgery (106), 810 Vermont Ave., N.W., Washington, DC 20420, Telephone: (202) 389-3466 or CDR T.G. McMahon, Assistant Executive Director, AMSUS, P.O. Box 104, Kensington, MD 20795, Telephone: (301) 933-2801.

## WEST COAST NURSING SYMPOSIUM

A symposium on Operational Readiness: Preparing for the Challenge will be presented by the Navy Nurse Corps under the sponsorship of the Health Sciences Education and Training Command (HSETC), Bethesda, MD. The symposium will be held 22-24 Oct 1980 at NRMCMC San Diego, CA.

The symposium has been approved by the California Board of Registered Nursing and HSETC for a maximum of 14 contact hours.

Entrance fee will be \$60 and includes lunch.

For further information, contact: LT Joseph Miller, Chairman, Registration Committee, CO Mailroom, Box 67, NRMCMC San Diego, CA 92134.

## LUNG DISEASE SUPERCOURSE

The national Supercourse® VI postgraduate course on lung disease sponsored by the American Lung Association of Louisiana, Inc., will be held 10-13 Dec 1980 at the Fairmont Hotel, New Orleans, LA.

The program content covers a broad spectrum of lung disease topics related to adult and pediatric pulmonary medicine, and nursing and respiratory care. Designed for physicians, nurses, and respiratory therapists, the course is a combination of clinical and scientific programs on the newer concepts of care for patients with respiratory diseases. Topics include pharmacology of bronchodilators and similar drugs used in respiratory care, critical care measurements for adults and older children, management of the wet lung, interstitial and infectious pneumonias, measuring the damage to the lungs, and occupational and industrial case presentations.

Luncheon seminars as well as clinical sessions will be offered for the specialty areas of pulmonary medicine. These topics include CAT scans and echos in pulmonary diagnosis, pediatric tuberculosis, advanced techniques of ventilator management for nonphysicians, nutritional aspects of the acutely ill patient, and industrial asthma.

The course is accredited by the American Medical Association in Category I for the Physicians Recognition Award on an hour-for-hour basis, and by the American Academy of Family Physicians. Accreditation applications for the course have been made to nursing organizations.

Tuition for physicians will be \$225. Tuition for residents, interns, fellows, and other professionals will be \$195.

Registration information is available from Clay A. Waggenspack, Jr., M.D., Course Chairman, American Lung Association of Louisiana, Inc., Suite 500, 333 Saint Charles Ave., New Orleans, LA 70130.

## Recent Publications by Navy Authors

*Comparison of the Effects of Ethane-1-Hydroxyl-1, 1-Diphosphonate and Dichloromethylene Diphosphonate upon Periodontal Bone Resorption in Rice Rats (Oryzomys Palustris* by Leonard EP, CAPT, DC, Reese WV, DT1, and Mandel EJ. *Arch Oral Biol* 24:707-708, 1979.

The following are papers published during 1979 by military and civilian staff members from U.S. Naval Medical Research Unit No. 3, Cairo, Egypt.

*Chronic Salmonella Septicemia and Malabsorption of Vitamin A* by Mansour MM, Mikhail MM, Farid Z, and Bassily S. *Am J Clin Nutr* 32(2):319-324, 1979.

*The Epidemiology of Tick-Borne Crimean-Congo Hemorrhagic Fever in Asia, Europe, and Africa* by Hoogstraal H. *J Med Entomol* 15(4):307-417, 1979.

*Acute Bacterial Arthritis* by Strausbaugh LJ, El Hadidi T. *Practitioner* 222(1329):395, 1979.

*Observations on the Subgenus Argas (Ixodoidea: Argasidae: Argas).* 17. *Argas (A.) polonicus* Sp. N. *Parasitizing Domestic Pigeons in Krakow, Poland* by Siuda K, Hoogstraal H, Clifford CM, and Wassef HY. *J Parasitol* 65(1):170-181, 1979.

*Ticks and Spirochetes* by Hoogstraal H. *Acta Trop* 36:133-136, 1979.

*Crowding Effect on Fecundity of Argas (Persicargas) arboreus (Ixodoidea: Argasidae)* by Khalil GM. *J Parasitol* 65(2):321-323, 1979.

*Hydrogen Ion Excretion and Urine Osmolality in Patients with Obstructive Uropathy Secondary to Schistosoma heaematobium* by Young SW, Farid Z, Bassily S, and El Masry N. *Trans R Soc Trop Med Hyg* 73(3):249-253, 1979.

*Low-Dose Niridazole in the Treatment of Schistosoma mansoni* by Bassily S, Farid Z, Higashi GI, and Watten RH. *Ann Trop Med Parasitol* 73(3):295-296, 1979.

*Hearing Impairment in Meningococcal Meningitis* by Habib RG, Girgis NI, Yassin MW, Laughlin LW, Sippel JE, and Edman DC. *Scand J Infect Dis* 11:121-123, 1979.

*Prophylactic-Protective Activity of Oral Oxamniquine Against Schistosoma mansoni Infection in Hamsters* by Girgis NI, Mansour NS, and Khalil SB. *East Afr Med J* 56(9):428-430, 1979.

*The Ornithodoros (Alectorobius) capensis Group (Acarina: Ixodoidea: Argasidae) of the Palearctic and Oriental Regions. O. (A.) coniceps Identity, Bird and Mammal Hosts, Virus Infections, and Distribution in Europe, Africa and Asia* by Hoogstraal H, Clifford CM, and Keirans JE. *J Parasitol* 65(3):395-407, 1979.

*Enteric Fevers in Egypt with Emphasis on the Chronic Enteric Carrier Condition* by Farid Z, Trabolsi B, Yassin W, Watten RH, and Abdel Wahab MF. *J Egypt Public Health Assoc* 54(1,2):9-14, 1979.

*Oxamniquine Fever-Drug Induced or Immune-Complex Reaction?* by Higashi GI, Farid Z. *Br Med J* 2(6194):830, 1979.

*The Subgenus Pericargas (Ixodoidea: Argasidae: Argas)* 31. *The Life Cycle of A. (P.) persicus in the Laboratory* by Khalil GM. *J Med Entomol* 16(3):200-206, 1979.

*Further Experience on the Use of Oxamniquine in the Treatment of Advanced Intestinal Schistosomiasis* by Farid Z, Bassily S, Higashi GI, El Masry NA, Watten RH, and Trabolsi B. *Ann Trop Med Parasitol* 73(5):501-502, 1979.

*A Study to Evaluate Non-Fatal Rabies in Animals* by Botros BAM, Lewis JC, and Kerkor M. *J Trop Med Hyg* 82(7):137-141, 1979.

*The Subgenus Pericargas (Ixodoidea: Argasidae: Argas).* 32. *Effect of Substerilizing Doses of Gamma Radiation on Male Fertility and Progeny of A. (P.) arboreus* by Khalil GM, and Abdu RM. *J Med Entomol* 16(4):339-342, 1972.

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